

TABLE 19

Companies with domestic R&D paid for by the company and others and performed by the company in the software products and embedded software technology focus area, by industry and company size: 2019

(Millions of U.S. dollars and number)

Industry and company size	NAICS code	Domestic R&D		Software products and embedded software R&D													
				Total				Paid for by the company				Paid for by others					
		Total										Federally funded					
		Companies ^a (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount						
All industries	21–23, 31–33, 42–81	28,270	492,956	12,450	i	200,859	11,640	i	189,553	1,440	i	11,306	710	i	5,089	i	
Manufacturing industries	31–33	15,180	285,674	4,410	i	41,105	4,230	i	36,281	500	i	4,824	i	140	i	2,995	i
Food	311	870	4,180	80	i	45	i	80	i	41	i	10	4	0	0		
Beverage and tobacco products	312	350	1,082	20		1	20		1	0		0	0	0	0		
Textile, apparel, and leather products	313–16	240	904	50	i	60	i	50	i	60	i	0	0	0	0		
Wood products	321	80	186	20	i	8	i	20	i	8	i	0	0	0	0		
Paper	322	90	1,064	20	i	12	i	20	i	12	i	0	0	0	0		
Printing and related support activities	323	200	420	i	70	i	78	i	70	i	78	i	0	0	0	0	
Petroleum and coal products	324	80	1,306	10		10	10		10	0		0	0	0	0		
Chemicals	325	2,330	97,063	200	i	1,572	190	i	1,538	20		34	10	2			
Basic chemicals	3251	240	2,360	20		21	20		16	10		5	0	0			
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	180	1,172	10		8	i	10	8	i	0	0	0	0			
Pesticide, fertilizer, and other agricultural chemicals	3253	150	1,822 - 1,846	20	i	973	20	i	955	10		17	0	0			
Pharmaceuticals and medicines	3254	1,060	87,619	90		470	90		467	10		4	10	2			
Soap, cleaning compound, and toilet preparation	3256	270	2,760	10		17	10		9	i	10	8	0	0			
Paint, coating, adhesive, and other chemicals	3255, 3259	460	1,305 - 1,333	70	i	84	70	i	84	10		*	i	10	*	i	
Plastics and rubber products	326	790	2,856	80	i	75	80	i	75	0		0	0	0			
Nonmetallic mineral products	327	170	1,508	i	20	i	31	i	20	i	31	i	0	0	0		
Primary metals	331	200	665	40	i	30	i	40	i	30	i	0	0	0			
Fabricated metal products	332	1,840	2,885	390	i	311	360	i	284	30		27	i	0	0		
Machinery	333	2,240	15,184	810	i	1,631	770	i	1,552	i	60	80	10	34			
Agricultural implement	33311	190	1,921	60	i	249	60	i	249	10		1	10	*			
Semiconductor machinery	333242	80	4,459	60		365	i	40	348	i	30	17	0	0			
Engine, turbine, and power transmission equipment	3336	110	1,301	50	i	133	50	i	99	i	10	34	10	31			
Other machinery	other 333	1,880	7,503	650	i	884	640	i	856	i	20	28	10	i	3	i	
Computer and electronic products	334	2,280	86,729	1,380	i	29,799	1,320	i	25,864	190	i	3,935	i	40	2,693	i	
Communications equipment	3342	300	12,595	240	i	8,231	i	240	i	8,168	i	10	63	10	37		

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								Companies ^b (number)	Amount	Companies ^b (number)	Amount
Semiconductor and other electronic components	3344	640	35,183 i	190 i	8,407	170 i	8,088	60 i	320	10 i	55 i
Navigational, measuring, electromedical, and control instruments	3345	1,140	17,562	760 i	7,037 i	730 i	3,544	120 i	3,493 i	30	2,583 i
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	230	3,342	130 i	512 i	130 i	419 i	30 i	94	10	1
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	190	9,662	140 i	5,192 i	130 i	1,853	30	3,339 i	30	2,580 i
Other measuring and controlling device	other 3345	740	4,558	500 i	1,332	490 i	1,272	60 i	60	10	2
Other computer and electronic products	other 334	220	21,388	200 i	6,124	190 i	6,065	10	59	10	18
Electrical equipment, appliances, and components	335	900	5,263	550 i	830	540 i	735	30 i	96	10 i	1
Transportation equipment	336	1,090	45,375	260 i	3,881 i	250 i	3,262 i	130	619 i	90 i	265 i
Motor vehicles, bodies, trailers, and parts	3361-63	540	24,117	180 i	2,076	170 i	1,834	40 i	242 i	10	3
Aerospace products and parts	3364	380 i	18,358 i	60	1,658 i	60	1,282 i	90	376 i	90 i	261 i
Aircraft, aircraft engine, and aircraft parts	336411-13	200	16,891 i	60	1,550 i	50	1,268 i	20	282	10	170 i
Guided missile, space vehicle, and related parts	336414-15, 336419	190 i	1,467	10	108 i	10	14	80	95 i	80 i	90 i
Military armored vehicle, tank, and tank component	336992	30	35	0	0	0	0	0	0	0	0
Other transportation	other 336	150	2,865	30	147 i	30	146 i	10	1	10	1
Furniture and related products	337	190	409	50 i	66 i	50 i	66 i	0	0	0	0
Miscellaneous	339	1,310	18,596	460 i	2,665	440 i	2,635	70 i	30	10	*
Medical equipment and supplies	3391	790	16,014	370 i	2,004	350 i	1,974	70 i	30	10	*
Other miscellaneous manufacturing	3399	520	2,582	90	661	90	661	0	0	0	0
Nonmanufacturing industries	21-23, 42-81	13,100	207,283	8,050 i	159,754	7,420 i	153,272	940 i	6,482	570 i	2,094
Mining, quarrying, oil and gas extraction, and support activities	21	160	2,717	30 i	951	30 i	943	10	8	10	*
Utilities	22	40	275	20	45	20	45	0	0	0	0
Wholesale trade	42	1,560	1,191	290 i	70 i	280 i	7 - 71 i	10 i	0 - 62 i	0	0
Electronic shopping and electronic auctions	454111-12	60	3,131 - 15,818 i	50 i	1,298 - 15,375 i	50 i	1,293 - 15,375 i	10	0 - 61	0	0
Transportation and warehousing	48-49	130	9,890 i	50	8,194 i	50	8,194 i	0	0	0	0
Information	51	3,090	110,227	2,830	102,561	2,760	101,780	130	781	10	10 - 31

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50–99	–	4,960	14,021	2,060	i	3,716	1,960	i	3,107	160		609	80		296			
100–249	–	4,580	19,793	1,720	i	5,963	1,640	i	5,127	170	i	835	70	i	425			
Large companies																		
250–499	–	2,140	18,883	780		6,633	730		5,632	90		1,001	i	30		327		
500–999	–	1,230	23,969	510		8,157	500		7,714	40		443		20	i	64	i	
1,000–4,999	–	1,330	75,671	590		31,404	580		30,165	50		1,239		20		504		
5,000–9,999	–	240	50,811	120		15,174	i	120	14,470	i	30		704	i	10		140	
10,000–24,999	–	220	88,263	120		29,212		110	26,829	i	20		2,383		10		290	i
25,000 or more	–	130	183,626	80		94,534	i	80	91,455	i	20		3,079	i	10		2,579	i

* = amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

^a Beginning in survey year 2018, these statistics include an adjustment to the weight to account for unit nonresponse; beginning in survey year 2019, these company count estimates reflect a change in rounding methodology.^b Beginning in survey year 2018, these statistics include an adjustment to the weight to account for unit nonresponse; beginning in survey year 2019, these company count estimates reflect a change in rounding methodology. These company count estimates also reflect an imputation process implemented for survey year 2014. This change has affected the comparability of these company count estimates with estimates published for years prior to 2014.^c The Business Enterprise Research and Development Survey does not include companies with fewer than 10 domestic employees.**Note(s):**

Detail may not add to total because of rounding. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. Companies could report R&D in one, more than one, or no application area. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2019.